GB

Photovoltaic pumping station ECOSOM

GB

INSTRUCTION AND INSTALLATION MANUAL

ECOSOM 4/80
For electric pump type
SRF 4/80 DC 24 V

ECOSOM 320 - 265 - 262
For electric pumps type
SEMISOM DC 24 V

"Translation of the Original Instructions"

BBC ELETTROPOMPE

Via G. Di Vittorio, 9
61034 Fossombrone (PU) - Italy
Tel. +39 0721 716590
Fax +39 0721 716518
www.bbc.it

LIST OF THE REVIEWS OF THE MANUAL

Code/Description	Review No.	Date
L17/1st ISSUE	00	SEPT. 2010

INDEX

	Part	Page
WARRANTY		3
SOME NOTES ABOUT THE USER'S MANUAL		3
INTRODUCTION	1	4
- MANUFACTURER'S STATEMENT	1.1	4
- IDENTIFICATION OF THE UNIT	1.2	4
- GENERAL NOTES AT DELIVERY	1.3	4
- DESCRIPTION OF THE PUMPING UNIT ECOSOM	1.4	5
- USE	1.4.1	5
- IMPROPER USE	1.4.2	5
- APPLICATION	1.4.3	5
- MAIN COMPONENTS OF THE PUMPING STATION	1.4.4	6
SAFETY PRESCRIPTIONS	2	7
- SYMBOLS AND THEIR MEANING		7
- CONTENTS		8
TECHNICAL FEATURES	3	11
HANDLING, INSTALLATION AND CONNECTION	4	12
- PRELIMINARY INFORMATION ABOUT HANDLING, INSTALLATION AND CONNECTION	4.1	12
- INSTALLATION	4.2	13
- ELECTRIC CONNECTION	4.3	16
START	5	20
STOPPING AND CLEANING	6	20
MAINTENANCE	7	21
TROUBLES AND SOLUTIONS	8	21
CE DECLARATION OF CONFORMITY		23

WARRANTY

The products have a 24 month warranty against manufacturing defects starting from their installation.

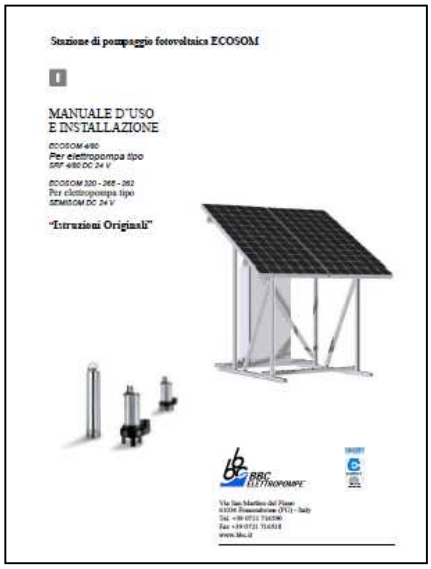
Warranty is limited to either replacement or repairing, at our workshop, of defective products or pieces and does not imply any possible request for indemnity.

Warranty does not include troubles due to wrong electric connection, lack of suitable protection, faulty assembling, wrong operations, defects of installation, any kind of corrosion and abrasion due to the liquid pumped as well as non-observance of the use provided for in the User's and Installation Manual.

The guarantee is not valid if products are disassembled, repaired or tampered with by unauthorized personnel.

SOME COMMENTS ABOUT THE USER'S MANUAL

The User's Manual is not an accessory of the Pumping station, but is an integral part of the station itself and represents a SAFETY MEASURE.


Stazione di pompaggio fotovoltaica ECOSOM

I

MANUALE D'USO
E INSTALLAZIONE

ECOSOM 480
Per elettropompa tipo
SRF 480 DC 24 V

ECOSOM 320 - 265 - 262
Per elettropompa tipo
SEMISOM DC 24 V

"Istruzioni Originali"

In order to make usage of the Manual easier, each subject has been divided into numbered points, which, where required are supported on drawings.

This manual has to be kept intact, near the electric pump and delivered to any operator, user or owner.

The manual shall not be damaged; it must be kept intact – do not tear any sheets –, be kept far from humidity and heat sources. While consulting, try not to damage its readability.

The most important sections are highlighted by symbols and detailed explanations above the pictures.

Giving these notices, the Manufacturer aims, in an unequivocal way, to alert the operator of measures, dangers and warnings that should concern him.

PART 1
PRELIMINARY INFORMATION

1.1
MANUFACTURER'S STATEMENT

The pumping station ECOSOM is manufactured in accordance with 2006/42/CE e 2004/108/CE Regulations.

BBC informs that any modifications or tampering to pumping station ECOSOM and/or operations carried out in non-compliance with the provisions of this manual, especially the non-observance of the Safety Regulations, imply the non-validity of the Warranty and, consequently, make the EC Declaration of original Conformity invalid.

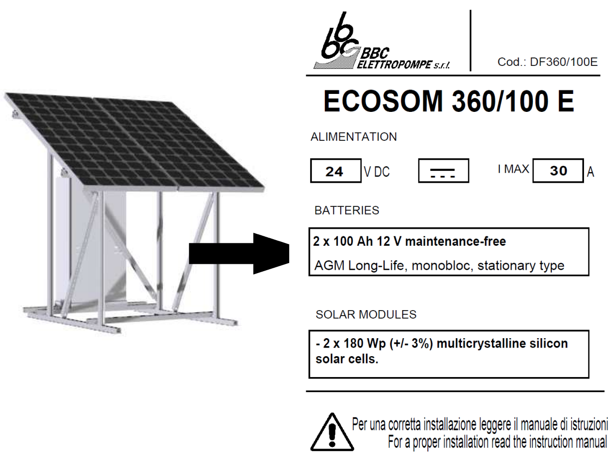
Please, remember that:
The technical data are referred to the pumping station ECOSOM 4/80 and ECOSOM 320 - 265 - 262 (SEE PART 3 — TECNICAL FEATURES), drawings and any other documents are owned by BBC who owns all relevant rights that can not be placed at any third parties' disposal without BBC written authorization.

Consequently, any reproduction – even partial – of text and illustrations is strictly prohibited.

1.2
IDENTIFICATION OF THE UNIT

Always remember to quote the model of the pumping station ECOSOM in case you call BBC or its customer service.

Transcribe the type of unit, so that a copy of the manual can be requested, should this one be lost and/or should the label be unreadable.



1.3
GENERAL INFORMATION AT DELIVERY

The pumping station ECOSOM is dispatched inside a rigid packaging.

When you receive them, always check that:

- *the package is not damaged;*
- *the solar panels and their accessories have not been damaged.*

Should there be any damage or missing parts, inform the supplier, the forwarding agent or his insurance company immediately, providing him detailed information.

1.4 DESCRIPTION OF THE PUMPING STATION ECOSOM

1.4.1 USE

(PURPOSE - SPECIFIC USE)

*The **ECOSOM** solar station, being delivered in a stand-alone kit and being easy-to-install units, allow to pump liquids wherever there is a good solar radiation. They produce 24V DC renewable energy by using available solar light.*

1.4.2 IMPROPER USE

CAUTION, DANGER OF FIRE AND TOXICITY!

THE PUMPING STATION ECOSOM MUST NOT BE USED TO PUMP DANGEROUS LIQUIDS (either inflammable or toxic)

Any use, other than that specified by the manufacturer, has to be considered as improper use.

1.4.3 PLACE OF USE

CAUTION, DANGER OF EXPLOSION!

THE PUMPING STATION ECOSOM MUST NOT BE INSTALLED IN EXPLOSIVE PLACES.

CAUTION, DANGER OF ELECTROCUTION!

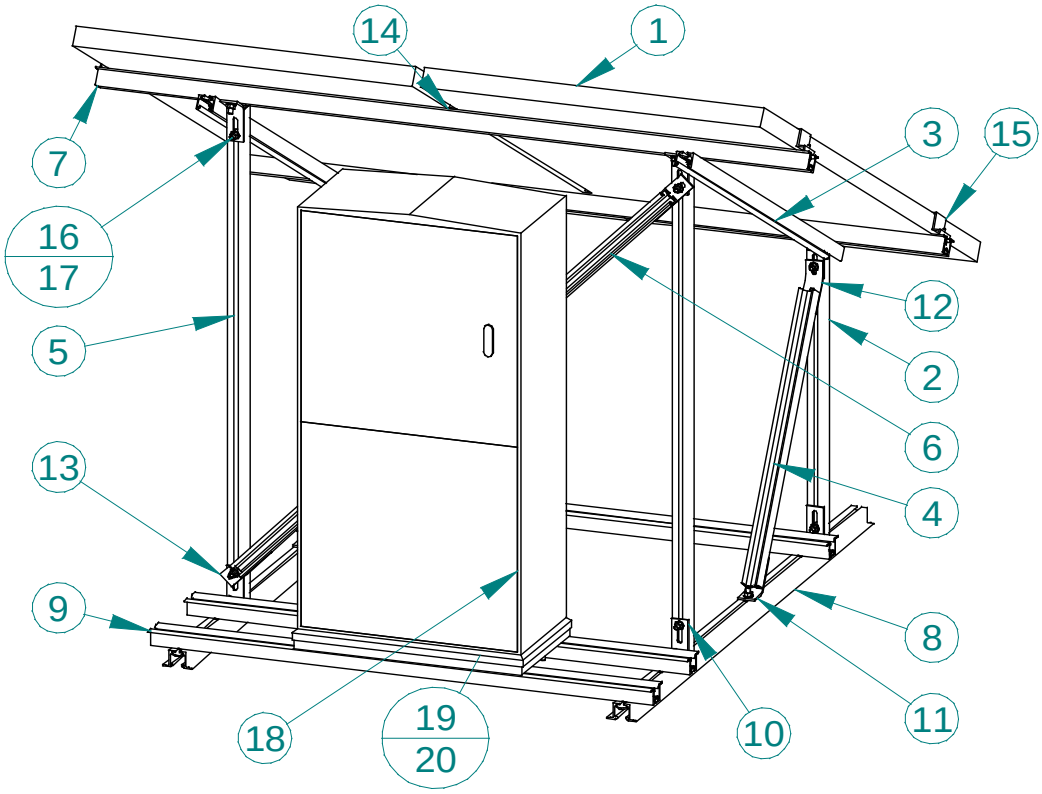
THE PUMPING STATION ECOSOM MUST NOT BE INSTALLED IN PLACES WHERE THERE ARE PEOPLE IN CONTACT WITH LIQUIDS (i.e. swimming pools).

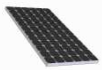
Minimum and maximum operating temperature of the liquid pumped:
*- **0 / 35 °C** for **continuous duty (ECOSOM 262,265,320);***
*- **0 / 45 °C** for **intermittent duty (ECOSOM 262 ,265 ,320).***
- 0 / 30 °C SERIES ECOSOM 4/80

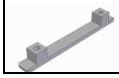
The pumping station ECOSOM has no vibrations and its noise is below 70 db (A).

In case of applications different from those specified in this manual, please contact BBC Elettropompe.

1.4.4
MAIN COMPONENTS OF THE PUMPING STATION ECOSOM



	Position	Description	Qty
	1	Solar module 180W (±3%)	2
	2	UP Profile L = 0,75 Mt.	2
	3	Profile UP L = 1,1 Mt. (drilled)	2
	4	Profile UP L = 0,72 Mt.	2
	5	Profile UP L = 1,24 Mt.	2
	6	Profile UP L = 1,48 Mt.	1
	7	Profile UP-S L = 1,7 Mt.	2
	8	Profile UP-S L = 1,5 mt.	2
	9	Profile UP-S L = 1,2 Mt. (drilled)	3
	10	90° bracket	4

	Position	Description	Qty
	11	Bracket 120°	6
	12	Bracket 150°	2
	13	Flat bracket	2
	14	Middle Clip 41-50 mm	2
	15	End Clip 42 mm	4
	16	Screw M10x30 A2	34
	17	Fixing nut M10 A4	34
	18	Cabinet	1
	19	Fixing nut M8 A4	4
	20	Square fixing clamp	2

PART 2
SAFETY PRESCRIPTIONS

While consulting this user's manual you will find some symbols; each one has its precise meaning.

CONVENTIONAL SYMBOLS AND THEIR DEFINITION

WARNING, DANGER OF ELECTROCUTION!
*It shows the concerned personnel that the operation described presents **risk of electric shock** if not carried out in compliance with the safety regulations.*

WARNING, GENERAL DANGER!

*It shows the concerned personnel that the operation described presents **risks to get physical ly injured** if not carried out in compliance with the safety regulations.*
*Every time, **risks are detailed, in TEXT AND SYMBOLS.***

NOTE!
It shows the concerned personnel which subject is to be taken into better consideration.

WARNING!
It shows the concerned personnel basic information whose content, if not respected, can determine, slight injuries to people or damages to the machine.

OPERATION
Indicates that only qualified personnel with specific skills should carry out the operation.

The operator cannot carry out any operation reserved for MECHANICAL OR ELECTRIC MAINTENANCE QUALIFIED PERSONNEL.

MECHANICAL MAINTENANCE OPERATOR
Qualified technician able to manage the machine in normal conditions. He/she is able to operate on all mechanical parts so to carry out all adjustments, maintenance interventions and repairs required.

He/she is not allowed to operate on electric systems with voltage presence.

ELECTRIC MAINTENANCE OPERATOR OR TRAINED PERSON (See EN 60204-1 point 3.52)
Qualified technician able to manage the machine in normal conditions. He/she is put in charge of the interventions of electric adjustment, maintenance and repairing.
He/she is able to operate with voltage presence inside electric panels or control boxes.

PERSONAL PROTECTION
*The operator is **OBLIGED** to use devices for personal protection in presence of one of these self explanatory symbols.*

RECOMMENDATION
It is referred to a method of work experienced in our facilities. Please, consider that each operator can develop his/her own way to carry it out.

SPECIAL INTERVENTIONS

Any special maintenance intervention, evidenced by this symbol, are to be requested to BBC Elettropompe.

CONTENTS

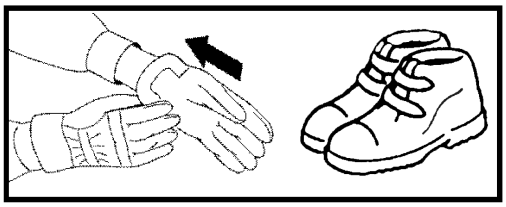
2.1
Before installing the pumping station, the customer shall make sure that the site is sufficiently levelled and can stand its weight (see Technical Features, Section 3). Furthermore, he/she will verify the presence of technological devices and sufficient room on all sides for any possible maintenance.

2.2
For all electric wiring, refer to the electric drawing (see 4.4.2).

2.3
The personnel chosen for the handling of the electric pump and its accessories will have to wear gloves and proper shoes to prevent accidents.

2.4
*For all handling operations of the machine, once it is unpacked, See Section 4 - **Handling, Installation and Connection**.*

2.5
All necessary operations of assistance, maintenance and repair must be carried out only by a QUALIFIED ELECTRIC TECHNICIAN or by a MECHANICAL MAINTENANCE OPERATOR who knows the safety prescriptions and the content of this manual.



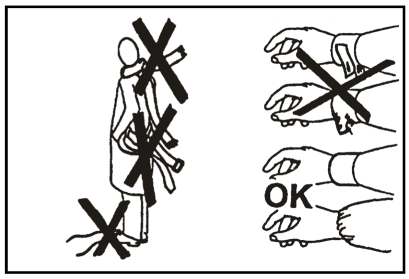
2.6
ZERO POWER STATE
Before doing any operation, turn the switch on O "ZERO".
- Remove fuses;
- Indicate WORK IN PROGRESS;
- Lock the panel, remove the key and bring it with you.

THE PUMPING STATION IS EQUIPPED WITH RE-SWITCHING DEVICES THAT MAY RESTART IT AUTOMATICALLY!

2.7
*The trained personnel called to operate on the pumping station must have the following IPD (**Individual Protection Devices**) at disposal:*
helmet, protection glasses, oxygen set, safety sling, gloves, accident prevention shoes when required.

Said personnel must also:

- *Wear overalls with closed cuffs;*
- *Tie hair if this is long;*
- *Never wear fluttering and/or torn objects and/or clothing (i.e., necklaces, watches, rings, bracelets, scarves, neckerchiefs, ties, etc.).*



2.8

CAUTION, DANGER OF INFECTIONS!

Before carrying out any intervention, the personnel operating shall make sure to use all hygiene and health measures.

2.9

NOTE!

Do not move nor handle any part of the ECOSOM pumping station by using its wires.

2.10

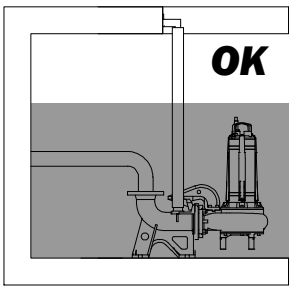
CAUTION! DANGER OF SHEARING, CUTTING AND ABRASION!

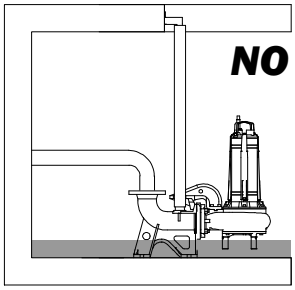
Be particularly careful while handling the aluminium profiles.

2.11

Start the electric pump only when it is duly installed and fixed.

NEVER START IT WITHOUT LIQUID.

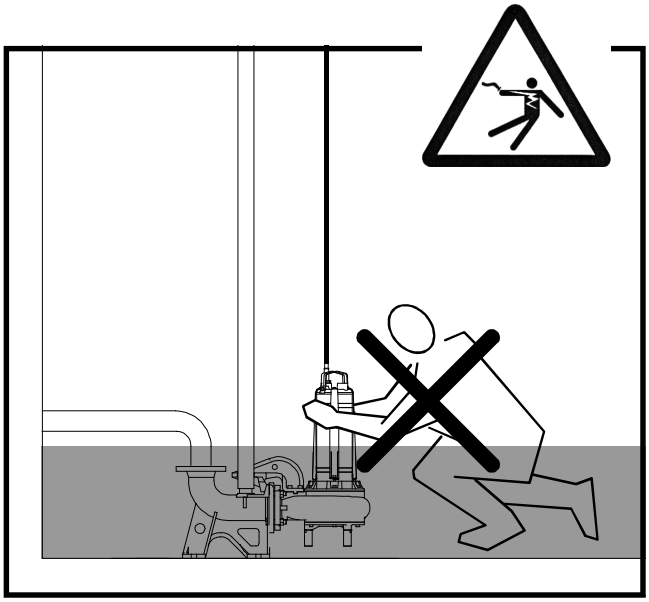




2.12

CAUTION! DANGER OF ELECTROCUTION!

Never run nor start *the electric pump if somebody is in contact with the liquid to be pumped.*



2.13

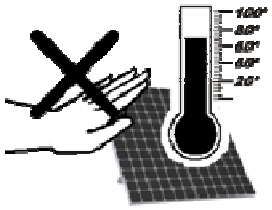
IT IS FORBIDDEN TO CARRY OUT MAKESHIFT REPAIRS.

2.14

Make sure that there are no tools, rags and other material left inside the panel or where the pump has been installed.

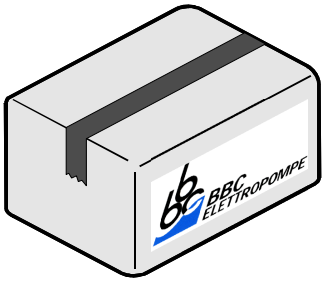
2.15

The solar panels can reach high temperatures. Consequently, handle them only once they are cool.



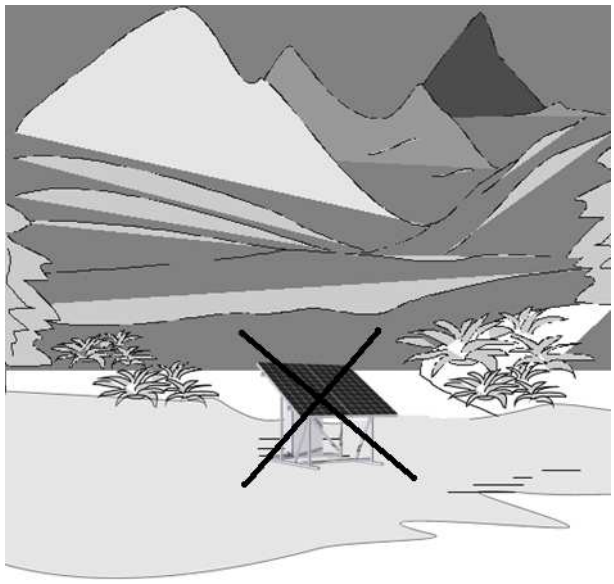
2.16

Always *ask for and use original spare parts.*



2.17

When the machine has finished its life cycle, please dispose of it in a responsible manner.
Contact a company specializing in Waste Disposal.



PART 3
TECHNICAL FEATURES

							Portata - *Flow*									
24V	**Caratt. Nominali *Nominal Charact.***						**m3/d***	**0**	**0,9**	**1,5**	**3**	**4,5**	**6**	**7,5**	**9**	**10,5**	**12**
Corrente Continua *Diret current*	**Hp**	**KW**	**A**	**m**	**DNM**		**l/min**	**0**	**6**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**
							Prevalenza manometrica totale in metri - *total manometric head in meters*									
Girante Radiale - *Radial Impeller*																
ECOSOM 4/80	0,75	0,55	28	5	1"¼			40	38	37	34	30	26	21	17	11	7

*Massima portata giornaliera con irraggiamento ottimale • *Maximum capacity with optimal daily sun irradiance*

							Portata - *Flow*									
24V	***Caratt. Nominali Nominal Charact.***					**Passag-gio solidi**	**m3/d***	**0**	**5**	**15**	**22,5**	**30**	**37,5**	**45**	**52,5**	**60**
Corrente Continua *Diret current*	**Hp**	**KW**	**A**	**m**	**DNM**	**ø ø *Solids***	**l/min**	**0**	**30**	**100**	**150**	**200**	**250**	**300**	**350**	**400**
							Prevalenza manometrica totale in metri - *total manometric head in meters*									
Acque Torbide Girante Aperta - Dirty Water Open Impeller																
ECOSOM 320	0,75	0,55	28	5	1"¼	13		11,5	11	9	7,5	5,5	3	0,5		
Acque Luride Girante Arretrata - *Sewage Water Vortex Impeller*																
ECOSOM 265	0,75	0,55	28	5	1"½	40		8,5	8	6,5	5,5	4	3	1		
Acque Luride Girante Bicanale - *Arretrata - Sewage Water Double-Channel Impeller*																
ECOSOM 262	0,75	0,55	28	5	2"	32		10,5	10	9	8	7	6	4,5	3	1

*Massima portata giornaliera con irraggiamento ottimale • *Maximum capacity with optimal daily sun irradiance*

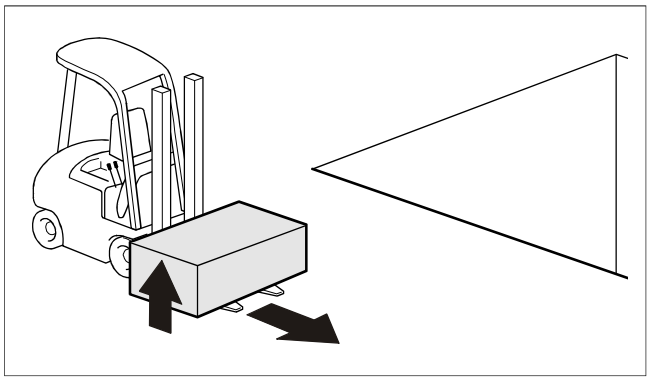
PART 4
HANDLING, INSTALLATION AND CONNECTION

*Read thoroughly **Part 2** and **Part 3** of this manual before handling, installing or wiring the pumping station.*

4.1
SOME PRELIMINARY INFORMATION ABOUT HANDLING, INSTALLATION AND WIRING

4.1.1
CAUTION, DANGER OF CRUSH, SHOCK AND ABRASION!
The personnel operating while handling and installing the solar pumping station shall always wear gloves, accident prevention shoes and helmet.

4.1.2
Bring the package/s near the place of installation by means of lifting equipment, fork lift or hand pallet truck.



4.1.3
***NEVER** work alone during the installation of the pumping station ECOSOM.*
*Always wear safety belts and Individual Protection Devices (**IPD***

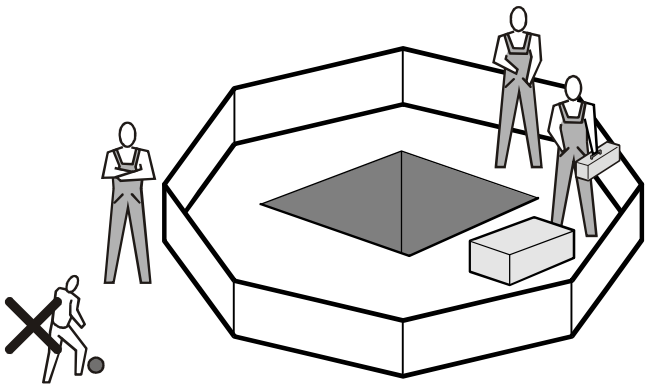
4.1.4
CAUTION! DANGER OF INTOXICATION OR POISONING BEACAUSE OF TOXIC GAS!

Make sure that there is neither toxic nor inflammable gas in the area where the pumping station ECOSOM will be installed.

4.1.5
CAUTION, DANGER OF SLIPPING!
Make sure that the area where the pumping station ECOSOM will be installed is not muddy.

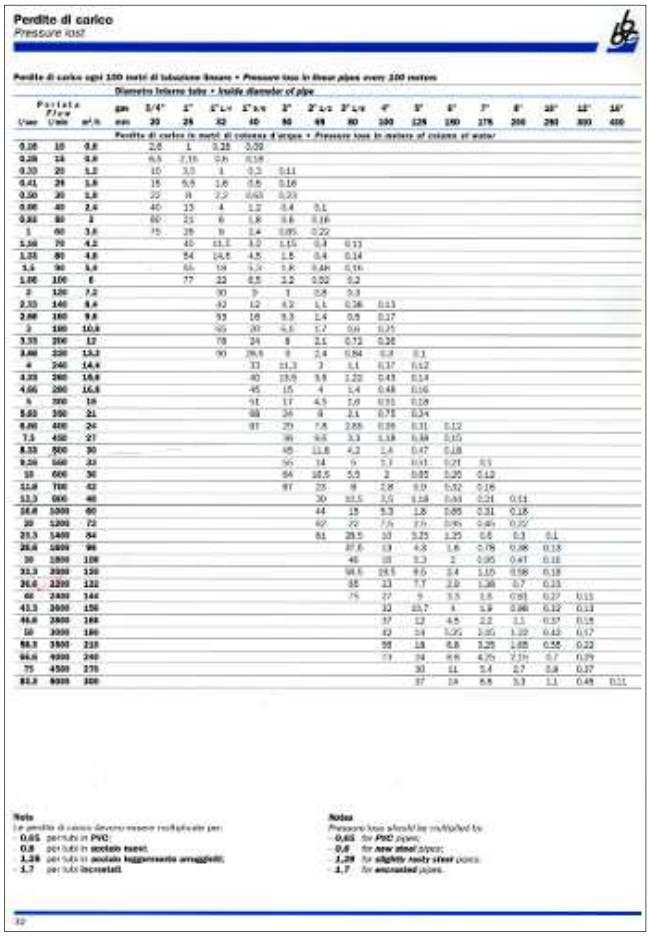
4.1.6
Make sure to have sufficient room where the pumping station ECOSOM will be installed.

4.1.7
Surround the installation area with suitable barriers.



4.1.8
It is advisable to install a NON-RETURN valve at least 1 (one) metre from the delivery outlet to avoid a possible flow-back of liquid through the delivery pipe.

4.1.9
Make sure that the electric pump to be installed is suitable for the system (see Ø of the pipes, flow of the electric pump, pipe length, etc.).
You can also consult the table of BBC General catalogue "pressure loss".


Perdite di carico
Pressure lost

NOTE!
4.1.10
Before the installation, read all paragraphs (4.2, 4.3 and 4.4) so to be ready for any circumstance.

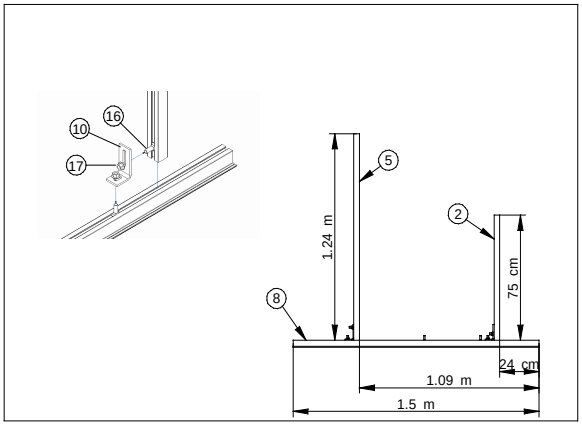
4.1.11
The preliminary information about HANDLING, INSTALLATION AND WIRING, is now complete.

4.2 INSTALLATION

4.2.1
Unscrew all screws of the bottom of the case and remove the lid from the base.

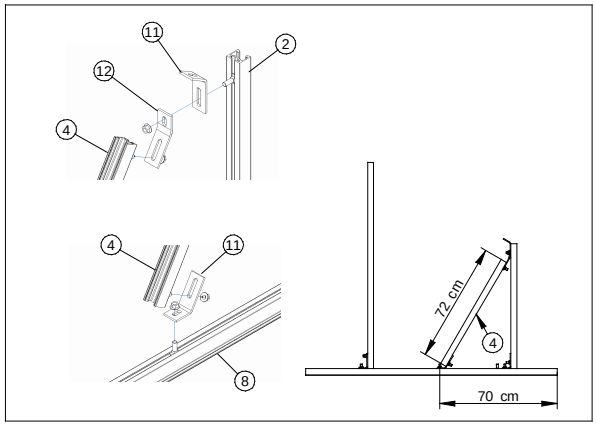
4.2.2
Necessary tools to assemble the station:
8 mm Allen key
13 mm wrench
15 mm wrench
15 mm socket wrench

4.2.3
Take the 0,75 Mt. UP profile (2), the 1.24 Mt. UP profile (5), and the 1,50 Mt. UP-S profile (8). Fix them using two 90° brackets (10).
The front must be 0.24 Mt. back from the end of the lower UP profile.
Please remember to use extra screws between the two studs.



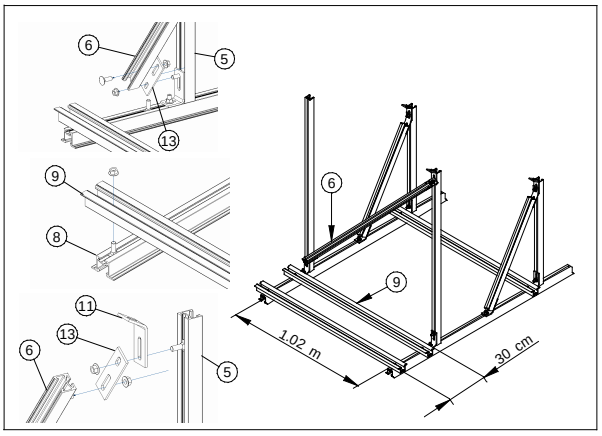
4.2.4

Assemble the profile UP 0.72 Mt. (4) with a 150° bracket (12) in the lower part of the frame, a 120° bracket (12) and a 150° one (11) in the upper part.



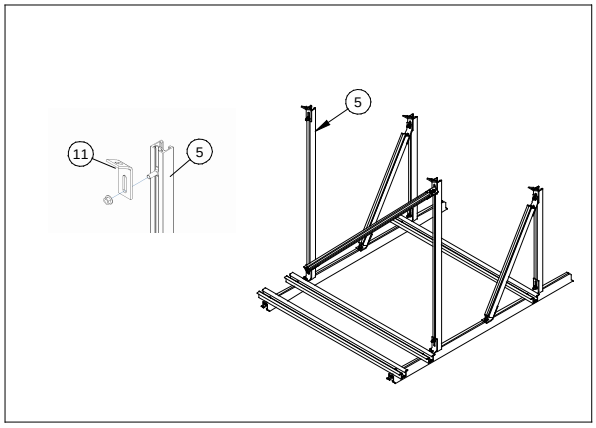
4.2.5

Repeat all operations mentioned on 4.2.3 and 4.2.4. Add also a flat bracket (13) in the lower part of the profile UP (6).
Use the profiles (9) to put the others at the right distance. Fix the stiffening profile (6) in the upper part by means of a flat bracket (13) and a 120° bracket (11)



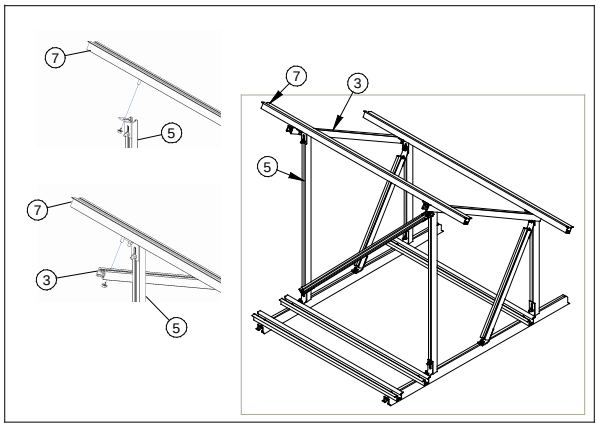
4.2.6

Use the remaining 120° bracket (11) on the remaining stud (5).



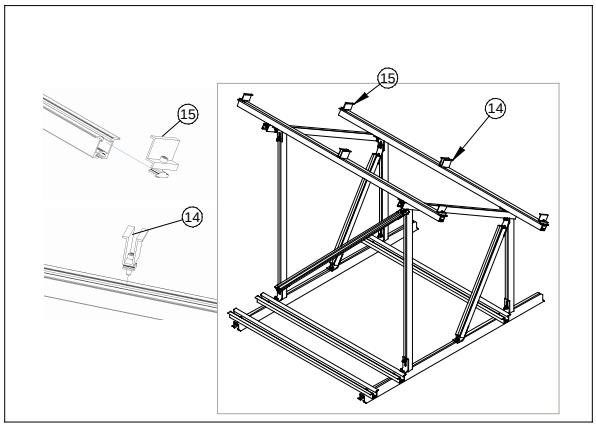
4.2.7

Assemble the 1,70 Mt. upper profiles (7). Assemble the last two 1,10 Mt. drilled profiles (3).



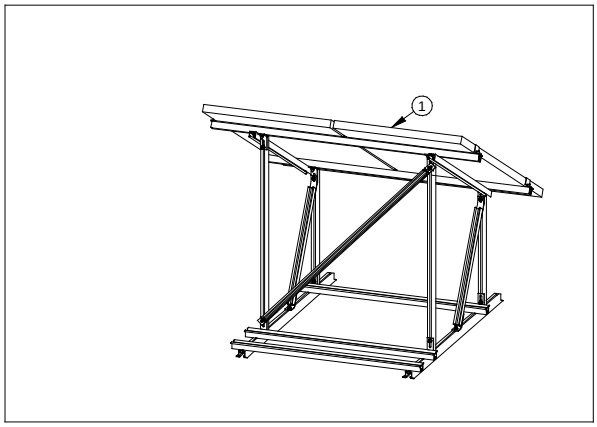
4.2.8

Insert the 6 fixing clips of the panel and make sure that the spring is in its correct position.



4.2.9

Insert the panels and tighten their screws.



YOU HAVE NOW ASSEMBLED THE SOLAR PUMPING STATION!

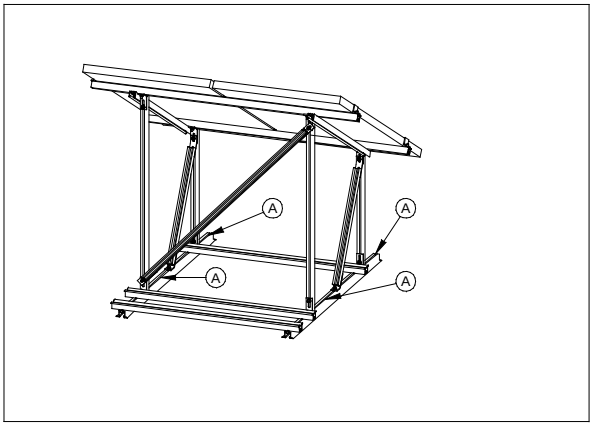
4.2.10
POSITIONING:

Place the solar pumping station facing SOUTH if it is installed in the northern Hemisphere, NORTH if in the southern Hemisphere.

4.2.11
ANCHORAGE

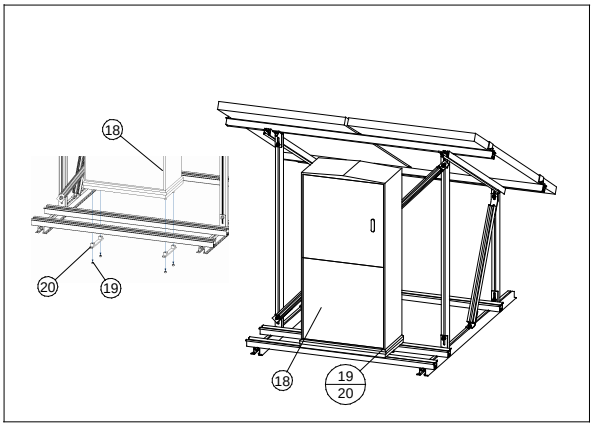
The best way to secure the pumping station is to fix the frame, firmly, to a rigid base. Its dimensions must be proportionate to the weight of the station and to the average wind speed of the area where the ECOSOM pumping station is to be installed.

Use the proper fixing spots (A).



4.2.12
HOW TO FIX THE ELECTRIC PANEL

Put the panel on the frame, insert the fixing clamps (20) in the screws coming out from the bottom of panel itself. Tighten the fixing nuts (19).



4.3 ELECTRIC CONNECTION

4.3.1 CAUTION!

During the operation of electric connection, there is a high ***RISK OF ELECTRIC SHOCK.***
This is why this operation must be carried out only by trained personnel (see EN 60204.1 point 3.52).

4.3.2

Take the electric diagram (see 4.4.2).

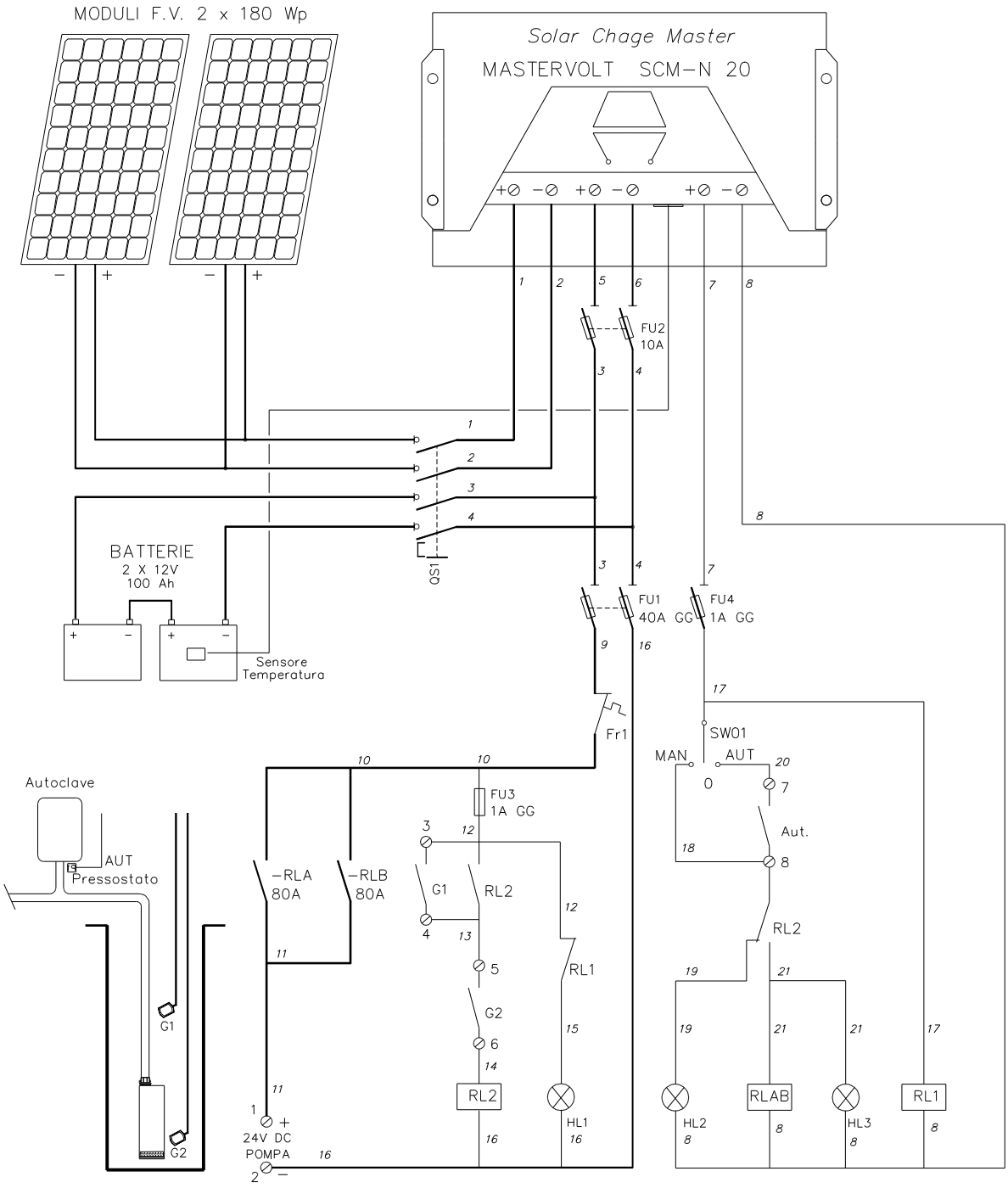
4.3.3 ELECTRIC PANEL

TECHNICAL FEATURES
- *30 A Unipolar thermal protector switch;*
- *80 A power relay;*
- *Predisposed to be connected with float switches for dry running protection;*
- *Predisposed to be connected with pressure switches, start and stop float switch, etc.;*
- *HAND-OFF-AUTO selector switch;*
- *Spy lamps for: Pump running, pump cut-out, low battery cut-out;*
- *20A automatic charge controller to supply the correct power to the batteries protecting them from any possible damage;*
- *Fibreglass cabinet that can be fixed to the main structure*
- *Fuse holder with fuses on both main and auxiliary circuit;*
- *Rechargeable and easy-to-inspect batteries fit in a slot on the frame.*

4.3.4 SYMBOLS OF THE COMPONENTS OF THE PANEL

- QS1	40A Opening interlock
- SCM-N 20	20A Charge controller;
- FU1	Fuses for pump protection;
- FU2	Fuses for SCM-N 20 protection;
- FU3	1A fuse to protect commands from batteries ;
- FU4	Fuse to protect commands from SCM-N 20;
- RL1	Signal relay from SCM-N 20-FU4;
- RL2	Signal relay from G1-G2-FU1-FU3;
- RLA/B	80A Power relay for pump control;
- SW01	HAND-OFF-AUTO pump switch ;
- HL1	Lamp for low battery cut-out / FU4 interrupted;
- HL2	Lamp for thermal cut-out / level cut-out / FU1 - 3 interrupted;
- HL3	Lamp for pump running;
- G1	RUN float switch;
- G2	STOP float switch;
- AUT	Automatic device: i.e.: float switch, pressure switch etc.

4.3.5
ELECTRICAL DRAWING



4.3.6
POWER CABLE

The electric pump is supplied with 5 Mt. cable. If an extra length is needed, choose the right size according to the table 'CHOISE OF THE CABLE' on BBC CATALOGUE.

Cable joints must be ABSOLUTELY WATER-TIGHT

		Sezione cavo in mm²			
		Cable section mm²			
Caratteristiche nominali ***Characteristic***	***Nominal***				
Hp	***A***	***2 x 6***	***2 x 10***	***2 x 16***	***2 x 25***
		Lunghezza massima cavo in metri - Maximum cable length in meters			
0,75	***28***	*10*	*15*	*20*	*30*

Note

- Caduta di tensione:

4%

Notes

- Voltage drop:

4%

4.4 WIRING

Turn the MAIN SWITCH on "0" (zero).

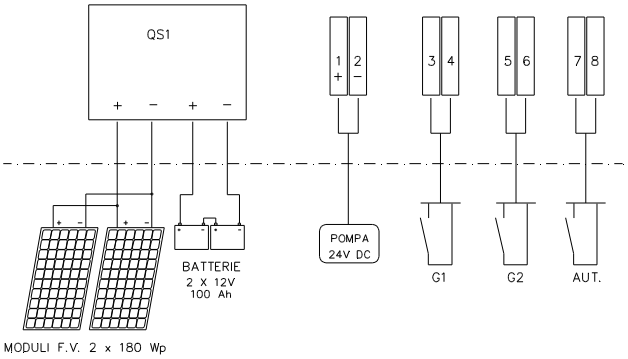
4.4.1 How to reach the terminal board

Unscrew the fixing screws of the panel where the ON-OFF switch is placed and then take it out.

4.4.2 DRAWING OF THE TERMINAL BOARD

***The electric pump** is supplied with a two-wire power cable.*

Power cable (red - black):



- *their section is 6 mm²;*
- *they must be wired to terminals 1 and 2 of the control panel.*
  - ***1*** *terminal* ***(+)*** *red wire;*
  - ***2*** *terminal* ***(-)*** *black wire.*

AUTOMATIC DEVICE:

- ***G1*** *Run float switch;*
- ***G2*** *Stop float switch;*
- ***AUT*** *Automatic device (i.e. pressure switch).*

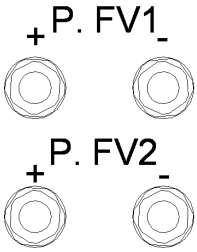
NOTE!

Make sure that the electric cables are always in good conditions and that the terminals are well-tightened to their own clamps.
Check, frequently and periodically, that all electric protections are duly working.
In case of intervention of one of the protections, check the reason before resetting the system.
Install the control and protection devices in an ambient according to their IP protection.

4.4.3 CONNECTION OF THE SOLAR PANELS

Turn the MAIN SWITCH on "0" (zero).

Use the quick connectors to wire the cables coming from the back of the panel to those of the solar panels. Be sure that polarities and colours match each other.

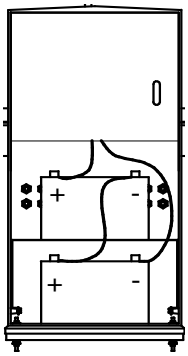


4.4.4 HOW TO PLACE AND CONNECT THE BATTERIES

- DO NOT PUT TOOLS NOR ANY OTHER METAL OBJECT ON THE BATTERIES
- NEVER MAKE TEMPORARY CONNECTIONS

Turn the MAIN SWITCH on "0" (zero).

Open the upper part of the control panel, remove the lower panel by unscrewing the fixing nuts.
The pre-wired cables to connect to the batteries are also supplied with eyelet.
Connect the batteries in series according to the electric drawing.
Connect the sensor of temperature to the battery.



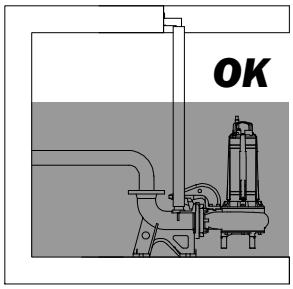
4.4.5

THE ELECTRIC CONNECTION is now complete.

PART 5
START-UP

5.1
*The operator must have read and understood this user's manual, particularly Part 2, '**Safety prescriptions'.***

5.2
Before starting the electric pump, make sure that there is liquid inside the basin and that the electric pump is submersed.



5.3
Make sure that the basin or the pit are firmly and properly closed.

5.4
Start the electric pump supplied with the pumping station ECOSOM by turning the selector switch on MAN.

The electric pump is started and the liquid is pumped.

5.5
Stop the electric pump by turning the selector switch on "0".

5.6
The START-UP is now complete.

5.7 CHECK OF THE AUTOMATIC DEVICES

5.7.1

Turn the selector switch on "AUTO". The electric pump is started and stopped according to the status of the automatic devices (i.e. float switches, pressure switches, etc.).

PART 6
STOPPING AND CLEANING

6.1
*The operator must have read and understood this user's manual, particularly Part 2, '**Safety prescriptions'**.*

6.2
Stop the electric pump supplied with the pumping station ECOSOM by turning the MAINS SWITCH on "0".

6.3
IN CASE OF LONG PERIODS OF STOP, IT IS NECESSARY:

a - To turn the MAINS SWITCH on "0".

*b - **CAUTION, DANGER OF ELECTRIC SHOCK!***
This operation must be carried out by an ELECTRIC MAINTENANCE OPERATOR.

Disconnect the power cable of the pump from the terminal board of the MAINS SWITCH.

c - *Pull out the electric pump;*

d - *Clean all its parts using a hot water high pressure cleaner;*

e - *Wrap the power cable;*

f - *Store it in a place where the temperature does not fall below 0°.*

6.4
STOPPING AND CLEANING are complete.

PART 7
MAINTENANCE

*Please, call BBC Elettropompe for any operation of maintenance, repairing and clearing (**LONG STOPS OR PERIODS OF IDLENESS** excluded).*
Our Firm will give you all relevant and necessary instructions on the matter.

PART 8
TROUBLES AND REMEDY

8.1
*The operator must have read and understood this user's manual, particularly Part 2, '**Safety prescriptions'.***

8.2
*These operations must be carried out by an **ELECTRIC MAINTENANCE OPERATOR.** (SEE EN 60204-1 Point 3.52).*

8.3
*These operations must be carried out by **MECHANICAL MAINTENANCE OPERATOR.***

8.4
*These operations must be carried out by an **OPERATOR.***

TROUBLE	*POSSIBLE CAUSE*	*REMEDY*
1) The electric pump does not start.	*The batteries are low*	*The pump will start as soon as the batteries have been re-charged*
	Intervention of the thermal protection	*See point 3) Intervention of the thermal protection*
	Burn-out fuses	*Replace fuses*
	The battery has been connected inverting the poles	*Change connections*
	The charge regulator is overheated	*Wait until the temperature goes down*
	The power cable is damaged	*Call BBC Elettropompe*
2) The electric pump runs but its flow rate is reduced	*Clogged suction*	*Clean*
	Clogged pipes or valves	*Clean*
	Impeller excessively worn out	*Call BBC Elettropompe*
	The sense of rotation of the impeller is inverted	*Invert two phases*
	The level of the liquid is too low	*Turn the MAINS SWITCH on "0" and wait until the level is restored*
3) Thermal protection cut-out	*The sense of rotation of the impeller is inverted*	*Invert two phases*
	Clogged impeller	*Clean*

IT - Costruttore *e luogo di archiviazione del fascicolo tecnico:*
GB - Manufacturer *and place where all technical records are filed:*
FR - Constructer *et place ou tout le dossier technique est déposé:*
DE - Hersteller *und Ort der Aufbewahrung der technischen Unterlagen:*
ES - Fabricante *y el lugar donde todos los expedientes técnicos se presentan:*

BBC Elettropompe Srl *- 61034 Fossombrone (PU) – ITALY*
Tel. +39-0721-716590 - Fax +39-0721-716518 - www.bbc.it

IT - DICHIARAZIONE CE DI CONFORMITA':

Prodotti: *ECOSOM 4/80 - ECOSOM 320 - 265 - 262*
Dichiariamo che i prodotti sopraelencati sono conformi alle seguenti Direttive:
- ***MACCHINE 2006/42/CE;***
- ***COMPATIBILITA' ELETTROMAGNETICA 2004/108/CE.***

GB - CE STATEMENT OF CONFORMITY:

Products*: ECOSOM 4/80 - ECOSOM 320 - 265 - 262*
We declare that the products listed above comply with the following Directives:
- ***MACHINERY 2006/42/EC;***
- ***ELETROMAGNETIC COMPATIBILITY 2004/108/EC.***

FR - DECLARATION CE DE CONFORMITE:

Produits*: ECOSOM 4/80 - ECOSOM 320 - 265 - 262*
Nous déclarons que les produits énumérès ci-dessus sont conformes aux Directives suivantes:
- ***MACHINES 2006/42/CE;***
- ***COMPATIBILITE ELECTROMAGNETIQUE 2004/108/CE.***

DE - KONFORMITÄTSERKLÄRUNG CE:

Produkte*: ECOSOM 4/80 - ECOSOM 320 - 265 - 262*
Wir, den hier unterzeichnende, daß die vorgenannten Produkte entsprechen folgenden Richtlinien:
- ***MASCHINENRICHTLINIE 2006/42/EG;***
- ***RICHTLINIEN DER ELEKTROMAGNETISCHEN KOMPATIBILITAT 2004/108/EG.***

ES - DECLARACION CE DE CONFORMIDAD:

Productos*: ECOSOM 4/80 - ECOSOM 320 - 265 - 262*
Declaramos que los productos arriba indicados se hallan conformes a las Directivas siguientes:
- ***MAQUINAS 2006/42/CE;***
- ***COMPATIBILIDAD ELECTROMAGNETICA 2004/108/CE.***

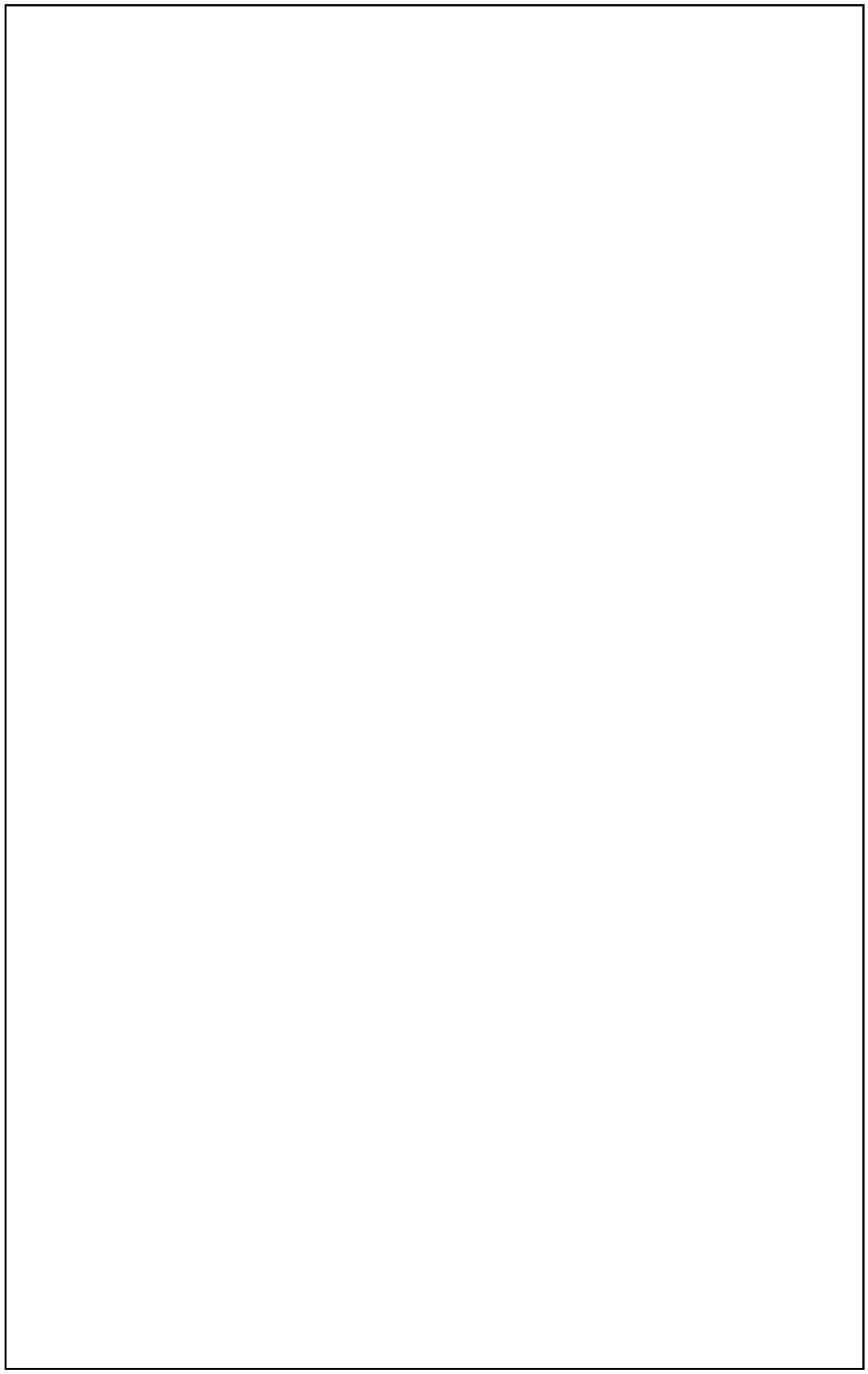
Fossombrone, 15/09/2010

Il Legale Rappresentante
Mario Cecchini

BBC ELETTROPOMPE

Via G. Di Vittorio, 9
61034 Fossombrone (PU) - Italy
Tel. +39 0721 716590
Fax +39 0721 716518
www.bbc.it
bbcpompe@bbc.it

PLATE DATA



Via G. Di Vittorio, 9
61034 Fossombrone (PU) - Italy
Tel. +39 0721 716590
Fax +39 0721 716518
www.bbc.it
bbcpompe@bbc.it